

REMARKS

Claims 1, 2, and 4-6 are pending. Claims 1 and 4 have been amended. Reconsideration and allowance of the present application based on the following remarks are respectfully requested.

Entry of this amendment is respectfully requested since it places the application in condition for allowance or at least in better form for appeal.

Claim Rejections Under 35 U.S.C. § 102

Claims 1 and 4 were rejected under 35 U.S.C. § 102(b) over Takashi (JP 2002231824). Applicant respectfully traverses this rejection.

Amended claims 1 and 4 each recite, in part, a method of forming a well that includes forming an oxide film with uniform thickness along the surface of the trench and performing an additional ion implantation process to form an additional ion implantation layer on the entire sidewalls of the trench.

In contrast, Takashi discloses a forming an oxide film 5 by a deposition method so that the thickness of the oxide film, as seen in Figures 1-23, is tapered on the sidewalls of the trench 4. Takashi fails to teach or suggest that the oxide film is formed with a uniform thickness along the surface of the trench, as recited in claims 1 and 4 since the oxide layer in Takashi actually has tapered ends. Additionally, although the Examiner alleges that Takashi discloses performing an additional ion implantation process to form an additional ion implantation layer on the entire sidewalls of the trench, the layer 6 in Takashi is actually a photoresist, not an additional ion implantation layer. In fact, Takashi fails to teach performing an additional ion implantation process to form an additional ion implantation layer on the entire sidewalls of the trench. Accordingly, Takashi fails to teach, or even suggest, a method of forming a well that includes forming an oxide film with uniform thickness along the surface of the trench and performing an additional ion implantation process to form an additional ion implantation layer on the entire sidewalls of the trench, as recited in amended claims 1 and 4.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Claim Rejections Under 35 U.S.C. § 103

A. Claims 2, 5, and 6 were rejected under 35 U.S.C. § 103(a) over Takashi in view of Fuse et al. (U.S. Patent No. 4,918,027). Applicant respectfully traverses this rejection.

Claims 2, 5, and 6 are believed allowable for at least the reasons presented above with respect to claims 1 and 4 by virtue of their dependence upon claims 1 and 4 and because Fuse does not remedy the deficiencies of Takashi discussed above with respect to claims 1 and 4. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

B. Claim 1 was rejected under 35 U.S.C. § 103(a) over Puchner et al. (U.S. Patent No. 6,342,429) in view of Shih et al. (U.S. Patent No. 6,362,035). Applicant respectfully traverses this rejection.

Amended claim 1 recites, in part, a method of forming a well that includes forming an oxide film with uniform thickness along the surface of the trench and performing an additional ion implantation process to form an additional ion implantation layer on the entire sidewalls of the trench.

In contrast, although Puchner discloses an implanting indium ion at the bottom of the trench (column 3, line 63 – column 4, line 10), Puchner fails to teach performing an additional ion implantation process to form an additional ion implantation layer on the entire sidewalls of the trench. Shih does not remedy at least this deficiency of Puchner. Accordingly, no combination of Puchner and Shih teach or suggest a method of forming a well that includes forming an oxide film with uniform thickness along the surface of the trench and performing an additional ion implantation process to form an additional ion implantation layer on the entire sidewalls of the trench, as recited in amended claim 1.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

C. Claim 2 was rejected under 35 U.S.C. § 103(a) over Puchner in view of Shih and further in view of Fuse. Applicant respectfully traverses this rejection.

Claim 2 is believed allowable for at least the reasons presented above with respect to claim 1 by virtue of its dependence upon claim 1 and because Fuse does not remedy the deficiencies of Puchner in view of Shih discussed above with respect to claim 1. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Conclusion

Therefore, all objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Should any issues remain unresolved, the Examiner is encouraged to contact the undersigned attorney for Applicants at the telephone number indicated below in order to expeditiously resolve any remaining issues.

Respectfully submitted,

MAYER BROWN ROWE & MAW LLP

By: 

Yoon S. Ham
Registration No. 45,307
Direct No. (202) 263-3280

YSH/VVK

Intellectual Property Group
1909 K Street, N.W.
Washington, D.C. 20006-1101
(202) 263-3000 Telephone
(202) 263-3300 Facsimile

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